REMARKS

The final Office Action, mailed March 23, 2006, considered and rejected claims 23-28, 40-45, 51, 53-67, 69-74 and 84-86. Claims 23-26, 40-43, 51 and 84-86 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko (U.S. Patent No. 6,486,925) in view of Eyer (U.S. Patent No. 6,483,547). Claims 57 and 58 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko (U.S. Patent No. 6,486,925) in view of Eyer (U.S. Patent No. 6,483,547) and further in view of ISO/IEC 13818-1. Claims 27, 28, 44, 45 and 53-56 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko (U.S. Patent No. 6,486,925) in view of Eyer (U.S. Patent No. 6,483,547) and further in view of DeFreese (U.S. Patent No. 6,493,876). Claims 59-65 and 70-74 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko (U.S. Patent No. 6,486,925) in view of Wugofski (U.S. Patent No. 6,003,041), and further in view of Eyer (U.S. Patent No. 6,483,547). Claims 66, 67 and 69 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko (U.S. Patent No. 6,486,925) in view of Wugofski (U.S. Patent No. 6,003,041) and further in view of Eyer (U.S. Patent No. 6,483,547) and DeFreese (U.S. Patent No. 6,493,876).[1]

By this paper, claims 23 and 59 have been amended,[2] and no claims have been added or cancelled. Accordingly, following this paper, claims 23-28, 40-45, 51, 53-67, 69-74 and 84-86 remain pending, of which claims 23, 40, 59 and 71 are the only independent claims at issue.

The present invention is directed to embodiments for efficiently tuning to a channel of any of multiple broadcast types. As recited in claim 23, for example, a method for tuning a channel includes storing tuning information (e.g., channel identifiers) in service records. Additional tuning information is also extracted from one or more digital data streams that is necessary for subsequent tuning to one or more corresponding digital channels. The additional tuning information is stored and subsequently used to tune to the digital channels in such a way that it does not have to be re-extracted. However, when the additional tuning information is incorrect or outdated, and because it is incorrect or outdated, an attempt by the tuning system to

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[1] Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

[2] Support for the claim amendments is found throughout the specification, including, but not limited to, the disclosure on pages 17, 19-23, and 27, and the figures related to the discussion therein.

tune to a particular channel which is selected by a user is unsuccessful. In response to unsuccessful attempt to tune to the particular channel selected by the user, the service record is updated with updated tuning information that is thereafter used successfully to tune to the particular channel selected by the user.

Claim 40 is directed to a computer program product for efficiently tuning to different channels and includes computer-readable media having computer-executable instructions for implementing the method of claim 23.

While Ko, which is the primary reference relied upon by the Examiner in rejecting claims 23 and 40, is generally directed to a channel managing apparatus and method for automatically switching to a tuner for receiving the type of broadcasting corresponding with a channel selected by a user, Applicants respectfully submit that Ko, even when combined with Eyer, fails to make obvious the claimed invention. For instance, the cited art, whether alone or in combination, fails to teach or suggest that when extracted additional tuning information is incorrect or outdated, an attempt by the tuning system is made to tune to the particular channel selected by the user, the attempt being unsuccessful at least in part due to the tuning information being incorrect or outdated and, in response to determining that the attempt to tune to the particular channel selected by the user was unsuccessful, updating the service record with updated information and using the updated information to then successfully tune to the particular channel selected by the user, as claimed, for example, in combination with the other recited elements.

In fact, the Office Action acknowledges that Ko fails to disclose that when extracted additional tuning information is incorrect or outdated, unsuccessfully tuning to the selected channel due, at least in part, to the additional tuning information being incorrect or outdated, and, in response, updating the service record with updated information that is thereafter used to successfully tune to the selected channel. (Office Action, p. 4). For this teaching, the Office Action relies on the Eyer reference.

Eyer, however, similarly fails to teach that when tuning information is incorrect or outdated, the tuning system makes an unsuccessful attempt to tune to the particular channel selected by the user, tuning to a selected channel is unsuccessful at least in part because the information is incorrect or outdated, and, in response to making a determination that the attempt to tune to the particular user-selected channel was unsuccessful, updating the service record with updated information used to successfully tune to the particular user-selected channel. In fact,

Eyer teaches that information is updated by *successfully tuning to every channel* such that the TSID data can be extracted from the various channels.

In particular, Eyer discloses a system for identifying analog television signals received over a terrestrial broadcast. (Col. 2, ll. 45-48). In the system, each transport stream of the system is identified by a unique tag such as a transport stream ID (TSID). (Col. 2, ll. 55-57). The system includes a receiver such as a set-top box or cable television converter which receives analog television signals. (Col. 6, ll. 18-26). The set-top box includes digital and analog tuners to recover desired digital and analog channel signals, respectively. (Col. 6, ll. 26-32). The digital and analog tuners access selected transport streams and provide the stream to TSID extractors which can locate the TSID for the channel and provide it to a channel map. (Col. 6, ll. 32-36, 45-49). The TSID can then be used to access channel map and EPG information. (Col. 6, ll. 51-54).

Eyer further discloses that in some enhanced systems, the receiver may include a learning algorithm adapted to obtain the TSIDs of the various digital and analog channels. (Col. 7, ll. 23-28). In particular, the learning algorithm can be started by a user selecting the learning function, or started automatically, when the television is turned off. (Col. 7, ll. 27-34). Upon selection, the learning mode calls the learning algorithm which "sequentially steps through each standard 6 MHz television frequency band and takes not of the values of any analog or digital TSIDs that are present." (Col. 7, ll. 23-28).

Accordingly, Eyer appears to disclose a television system in which channel TSID information is updated *by successfully tuning to a channel and extracting the information from the channel.* Accordingly, Eyer clearly fails to teach or suggest that when the extracted additional tuning information is incorrect or outdated, the system makes an unsuccessful attempt to tune to the channel. In fact, Eyer appears to teach just the opposite, that the channel is actually accessed so as to obtain the most up-to-date information directly from the channel. In other words, Eyer teaches that a channel is accessed regardless of whether the information for that channel is correct or not. Moreover, Eyer teaches that the information is accessed and updated for every channel, sequentially, rather than by attempting to access a particular channel selected by the user, as claimed in combination with the other recited claim elements. Accordingly, Eyer and Ko, alone and in combination, fail to teach or suggest each and every limitation of the present invention.

As noted previously, claims 59 and 71 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Ko in view of Wugofski and Eyer. Claims 59 and 71 are directed to corresponding embodiments relating to the user experience for navigating to and selecting a channel to be tuned to. As recited, these claims include storing a plurality of service records which each contain tuning information for tuning to a particular channel of the various available channels. The service records are also grouped into service spaces that are displayed to a user. As recited in the above claims, grouping of service records is based, at least in part, on the content of the broadcast rather than the type of broadcast used to deliver the data and, in fact, at least one service space corresponds to a plurality of different service records. When one of the service spaces is selected, the corresponding service record information is displayed. Then, when one of these corresponding service records is selected, the channel corresponding to the selected service record is tuned using the tuning information provided in the service record.

Applicants respectfully submit that these recited embodiments are clearly distinguished from the cited art of record. In particular, the cited art fails to disclose or suggest, among other things, that service records displayed to a user are grouped according to a broadcast content type that is other than the broadcast type, or that at least one of such service spaces includes a plurality of different service records corresponding to a plurality of different broadcast types. In fact, Ko discloses channels that "are provided from multiple sources and assembled into a single channel map" and in which channels are ordered in the channel map and selected *based on the broadcast type.* (Ko, Col. 5, ll. 10-34; Ko, Col. 6, ll. 35-44).

Similarly, Wugofski fails to disclose grouping service records into a plurality of service spaces according to content type, as claimed in combination with the other recited claim elements. In particular, Wugofski (Figure 6) appears to disclose a channel map database structure in which different columns are used to identify categories corresponding to different types of information that can be used for tuning to a channel. For instance, logical and physical channels, a source, a receiving device, and a name may be saved. Applicants respectfully submit that these column categories fail to identify a content type, or to group a plurality of service records into a plurality of service spaces according to content type, as claimed in combination with the other recited claim elements.

Moreover, the Office Action appears to acknowledge the deficiency of Ko and Wogofski in this regard inasmuch as it notes that Ko and Wogofski do not teach categorizing service

records into a plurality of services spaces according to a broadcast content type that is other than broadcast type. (Office Action, p. 9). The Office Action thus turns to the Eyer reference to remedy this deficiency.

Eyer, however, similarly fails to disclose or suggest grouping a plurality of service records into a plurality of service spaces according to broadcast content type, rather than broadcast type, such that at least one service space includes a plurality of different service records corresponding to a plurality of different broadcast types, as recited in combination with the other claim elements. In fact, Eyer appears to merely disclose that information about a channel is stored, but without any teaching that information is grouped according to content as recited in the pending claims.

In particular, Eyer appears to disclose that a TSID is acquired for a channel and associated with relevant information about the channel, including the channel name and number, program title, and schedule information. (Col. 3, ll. 10-25; Col. 4, ll. 1-9). This information can be stored in a look-up table such as an EIT table, which provides program titles and schedules, and in an EET table, which provides text describing the program descriptions. (Col. 2, ll. 34-41; Col. 4, ll. 1-9).

Thus, while Eyer discloses that program information is stored in look-up tables, it fails to disclose wherein a plurality of service records, each service record corresponding to a particular channel, are *grouped* into service spaces *according to broadcast content type*, and wherein at least one such service space includes a plurality of different service records corresponding to a plurality of different broadcast types, as claimed in combination with the other claim elements. In other words, while Eyer appears to disclose that program information is stored, it does not disclose that *service records*, each corresponding to a particular channel, are *grouped* according to content type, as recited in the claims.

In view of the foregoing, Applicants respectfully submit that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time.[3] It

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[3] Although not necessary in light of the above discussion, Applicants specifically address the rejection in the Office Action regarding claim 86. Claim 86, which is presented as a dependent claim, recites an embodiment in which the method for tuning to a channel includes *receiving aggregate information* corresponding to *a plurality of different channels* over a single channel. As also noted above, this claim was rejected under 35 U.S.C. § 103(a) as obvious in view of Ko and Eyer. In particular, the Office Action notes that Eyer discloses receiving channel information of a single channel. (Office Action, p. 6). Applicants respectfully note that while Eyer appears to disclose receiving channel information for a particular channel over the broadcast of that channel, such a teaching appears to be limited to receiving information of *a single channel*, rather than aggregate information of a

will be appreciated, however, that this should not be construed as Applicants acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicants reserve the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicants specifically request that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine references with the other art of record.

For at least the foregoing reasons, Applicants respectfully submit that the pending claims are neither anticipated by nor made obvious by the art of record. In the event that the Examiner finds and remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 31st day of October, 2006.

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plurality of channels, as claimed in combination with the other recited claim elements. Accordingly, the Office Action fails to present, or even assert, a *prima facie* case of obviousness with respect to claim 86.